

EXPERIMENT: MEASURING THE TEMPERATURE

This experiment can be used to support learning for Activity Cards WATER TEMPERATURE, and LAND USE.

PURPOSE

To discover whether muddy water (high turbidity) heats up more quickly than clear water.

EQUIPMENT

- A number of glass jars – 3 per group
- 3 thermometers per group
- A bucket of silt/sediment
- Stop watches

PROCEDURE

This experiment needs to be done outside, preferably on a sunny day. Divide the class into groups of 3-4, depending on availability of equipment.

1. Fill 3 jars to the same level with clean water
2. Add silt to a depth of one centimetre to one of the jars
3. Add silt to a depth of three centimetres to the next jar
4. Leave clear water in one jar
5. Stir each one and leave in the sun
6. Take the initial temperature of each jar and record results
7. Take the temperature again at 5 minute intervals for 20- 30 minutes and record your results

RESULTS

Water temperature

Type of water	Water temperature			
	At start	5 minutes	10 minutes	15 minutes
Clear water				
Water with 1 cm silt				
Water with 3 cm silt				

Compare and discuss the results of each group.

Graph the averaged results.

CONCLUSIONS

Discuss:

- Which water heated up fastest?

Research

- What might be the possible negative effects of increased water temperature caused by turbidity?
- How might the animal and plant life in a waterway be affected?
- Which victims might be affected particularly?
- Would any villains thrive in these conditions?
- Introduce students to the term turbidity.

SOLVING THE CRIME

In which crime sites is there a problem with turbidity?

Hint: Look at the water sample results which may be released amongst the clues.

Can any crime sites be eliminated from your investigation as a result of the experiment results?